

## ACTIVE PULSE MONITORING IN A CHEMICAL REACTOR

### Abstract of the Disclosure

A method and apparatus for determining changes in a supply system, designed to supply repeated pulses of a vapor phase reactant to a reaction chamber is disclosed. One embodiment involves providing the reactant source, and a gas conduit to connect the reactant source to the reaction chamber, a valve positioned in communication with the reactant source such that switching of the valve induces vapor phase reactant pulses from the reactant source to the reaction chamber and a sensor positioned in communication with the reactant source and configured to provide a signal indicative of a characteristic parameter of the reactant pulse as a function of time. A curve is derived from the signal and the shape of the curve is monitored to determine changes in the curve shape over time during subsequent pulses.